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Prospectus for a Federal Library Cooperative Center^{*}

In order to discuss the activities within the federal community looking toward a federal library cooperative center, it may be useful to review the paths by which our group got started on the subject. For that purpose I will summarize the results of a survey of the federal library community which convinced us that the needs of that community would be well served by cooperative undertakings.

The Federal Library Committee was established in 1965, with power to recommend policies to achieve better utilization of federal library resources and facilities, and to promote more effective planning and operation of federal libraries. To this end, the committee is authorized to examine and evaluate existing federal library programs, including study of the need for and potential of technological innovation in library practices. The parent committee developed a mechanism of task forces, subcommittees and work groups to fulfill its functional responsibilities. The Task Force on Automation of Library Operations, in particular, was established to review and report upon the status of automation activities in federal libraries, to encourage development of compatible automated systems where feasible, to furnish guidance to federal administrators and librarians on automation problems in libraries, and to provide liaison between federal libraries and other groups interested in the application of automatic data processing to information and document retrieval.

As a voluntary group of people engaged full time in their own agencies, the Task Force has directed its efforts and limited resources largely to the collection of information about federal library automation. The group recog-

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nized that some libraries are already operating such systems, some are planning systems, and many are seeking guidance in applications. It felt, however, that a great accumulation of experience in library automation was to be found in the federal government, and that study of this wealth of experience would benefit not only the federal agencies, but the library and information services community as a whole.

I must note here also, that the Task Force on Automation has not included the three national libraries in its efforts and concerns. Recognizing the disparity between size and resources of most federal libraries and those of the national libraries—LC, NLM, and NAL—as well as the existence and program of the National Libraries Task Force on Cooperative Activities described by Cylke in the preceding article, the Task Force determined to concentrate on the activities and needs of the rest of the federal libraries.

As one step in its program to collect information about federal library automation, the Task Force served in a technical advisory capacity for a broad survey of the current status of automated operations in federal libraries. A questionnaire survey was conducted in 1970–71 by System Development Corporation with the support of the U.S. Office of Education, Bureau of Library and Educational Technology.

The survey was designed to accomplish three goals: (1) to define library operations susceptible to automation, whether such operations are now being automated or not; (2) to describe automation techniques of potential use in library operations, both those techniques now being applied and those of possible interest for library applications; and (3) to establish criteria for determining the feasibility of automation (“what to automate”), the types of hardware and software available for library automation, and the various factors to be taken into account in considering library automation possibilities.

Survey Results

A general picture of the federal library community was gleaned from the survey. It shows that the community is widely dispersed within the U.S. and around the world (figure 1); contrary to local belief, only 7 percent of all federal libraries are within the metropolitan Washington, D.C. area. Perhaps even more surprising, only 60 percent are located within the continental United States.

The size of the libraries was determined from a number of factors. For example, the median size for a collection in a federal library is 16,500 total holdings (table 1). Books are predominant among those holdings, but there are also some less traditional materials such as audio recordings, maps, and films.

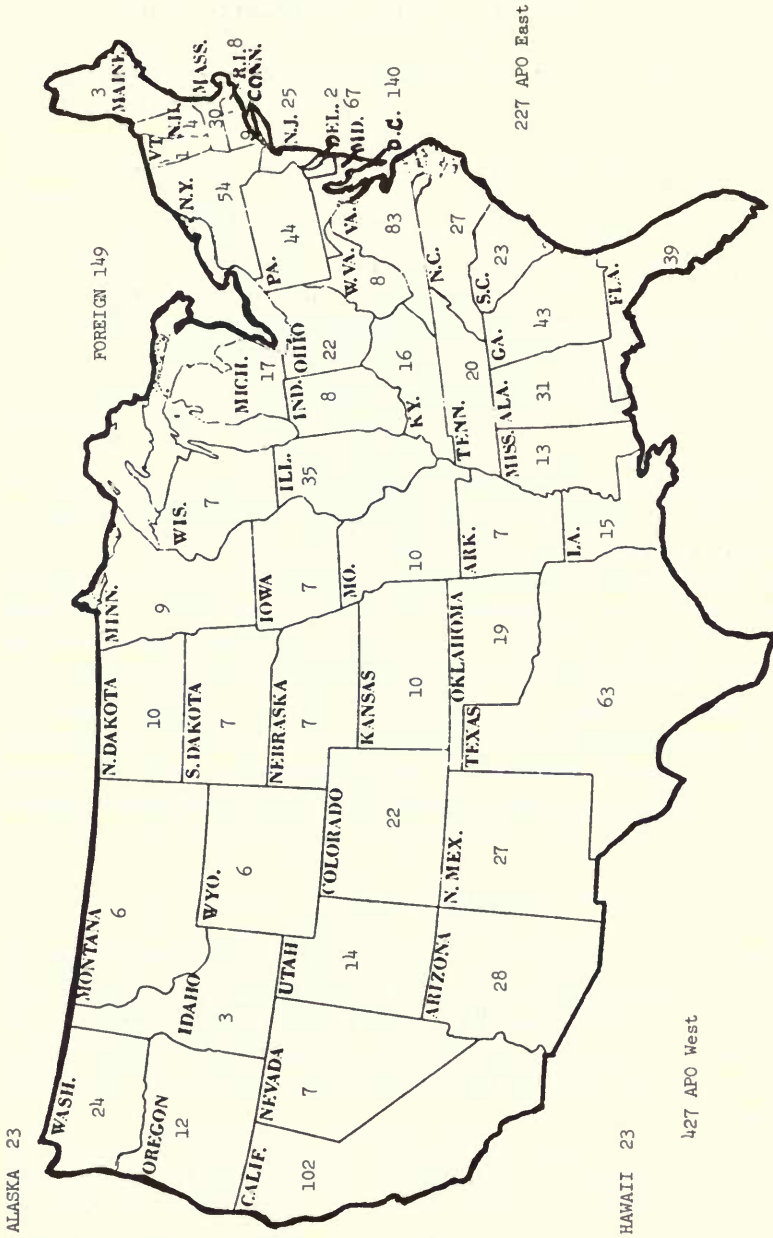


Fig. 1. Location of Federal Libraries, Based on Roster of Federal Libraries (1970)

Sources: Markuson, Barbara E., et al. Automation and the Federal Library Community. Education and Library Systems Dept., System Development Corp., Falls Church, Virginia, 1971, p. IV-4, table IV-1.

Type of Material	N	Number of Respondents				
		Under 5,000	5,000-20,000	20,001-50,000	50,001-200,000	Over 200,000
Books	929	280	454	137	46	12
Serials	877	827	34	12	4	
Government documents	603	528	46	14	11	4
Pamphlets and reprints	591	546	36	6	2	1
Phonorecords, tapes, etc.	523	511	11		1	
Maps and charts	520	502	10	5		3
Technical reports	491	375	57	21	21	17
Internal reports	376	341	22	7	4	2
Pictures	363	345	12	2	3	1
Films	354	344	6	1	2	1

Table 1. Types of Materials and Number of Titles Held

Budget figures also indicate the size of a library; the median respondent spent less than \$27,000 for materials, staff, and equipment in FY 1970. The total budget reported by all respondents is approximately \$60 million; about two-thirds is devoted to personnel (table 2). Considering the heavy labor costs, and the preponderance of small libraries in the federal community, it is obvious that the most effective and efficient use of that labor is necessary to optimize operations and services. The Task Force believes that some amount of automation offers a potential here, either directly in the larger libraries or through cooperative centers and shared services for field libraries and other smaller libraries.

Another indicator of size is staff; the majority of the responding libraries have fewer than three staff members (table 3). Typically, the federal library has one librarian who may or may not be a professional and who may or may not have supporting staff. The overall ratio of professional to non-professional staff is 1:1.3. These figures again suggest the potential of automation as a means to optimize operations and services and make the most effective use of those personnel.

A series of questions in the survey was directed to the subject of cooperative networks, involving more than interlibrary loan and operating outside the parent agency.

Only 10 percent of the respondents said that they were involved in such networks (table 4). These networks were rather small, involving ten or fewer libraries, but in some instances they covered extensive geographic areas and helped to augment the small staffs and collections already noted.

Category	N	Total Expenditures	Median	First Quartile	Third Quartile	Range*
Materials	825	\$15,414,998	\$ 6,000	\$ 2,925	\$12,000	\$25-\$2,200,000
Personnel	769	37,361,777	20,000	11,000	34,347	1-2,800,000
Equipment, supplies	708	2,261,139	757	300	2,000	5-100,000
Contractual services	274	4,023,950	1,200	500	3,525	10-2,000,000
Other	128	1,578,344	867	435	3,500	10-576,500

Table 2. 1970 Expenditures by Category for All Respondents

*The ranges shown here have been verified against the actual data given by respondent.

Personnel Categories	N	Total Staff	Number of Staff			Range
			Median	First Quartile	Third Quartile	
Professional	764	1,738.2	1.0	1.0	2.0	0.5-37.0
1410 Series	38	150.5	1.0	1.0	2.0	1.0-88.0
1412 Series	55	166.5	2.0	1.0	3.0	0.5-20.0
Other	465	1,367.5	1.0	1.0	3.0	0.5-40.0
Subprofessional	469	1,230.5	1.0	1.0	2.0	0.3-40.0
Clerical	28	80.5	1.0	1.0	2.0	0.5-18.0
Contractual						

Table 3. Current Staff

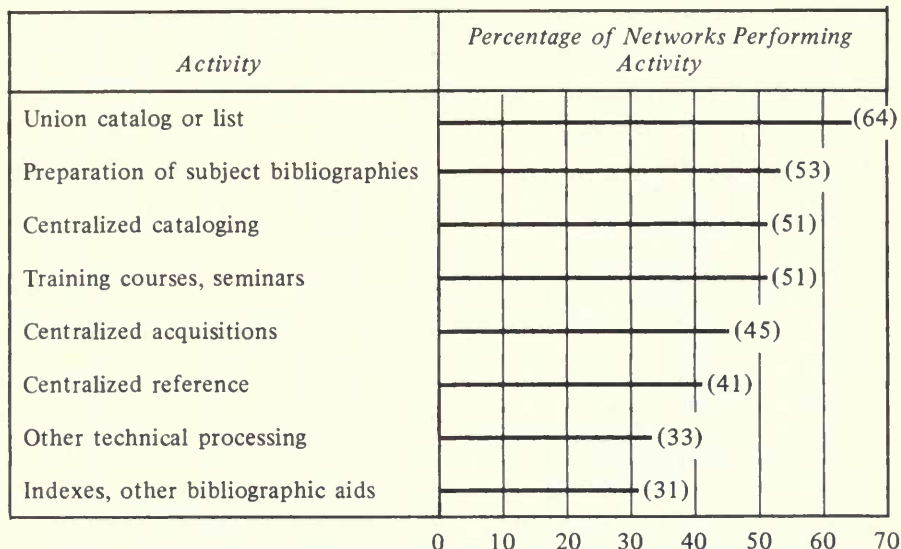


Table 4. Activities Performed or Planned in Nonagency Networks in Which Respondents Participate

Interlibrary activities other than formally established networks tend to involve other local libraries rather than more distant ones, even to the extent of more cooperation with local nongovernmental libraries than with parent agency libraries outside the immediate area. This pattern held true for all but exchange of materials (table 5). These activities, of course, also serve to augment the library's resources.

Federal libraries, in spite of such constraints on their resources, do a creditable job of serving the needs and requests of their patrons. A relatively high proportion (27 percent) of the respondents said they use information retrieved from machine-readable data bases to answer some user inquiries. Sixteen of these respondents have terminals on-line to the data bases, the rest submit written, formatted search requests. Since these are not large libraries, they must be considered in the vanguard in library use of these tools.

Most of the federal libraries with automation programs have emphasized systems related to user services (cataloging, reference services) as opposed to housekeeping operations. In addition, the computer is used for information retrieval, the publishing of bibliographies for SDI, and for abstracting and indexing.

Most of the automation efforts have been in comparatively large and well-supported libraries. However, although the libraries with automation pro-

<i>Kind of Library</i>	<i>Number of Respondents Interacting with:</i>	
	<i>Libraries within Local Area</i>	<i>Libraries outside Local Area</i>
<i>INTERLIBRARY LOAN</i>		
Other libraries in own agency	464	417
Other federal libraries	459	384
Nonfederal governmental libraries (e.g., state libraries)	375	278
Nongovernmental libraries	497	399
<i>PHOTOCOPYING</i>		
Other libraries in own agency	186	190
Other federal libraries	194	173
Nonfederal governmental libraries (e.g., state libraries)	134	115
Nongovernmental libraries	205	180
<i>REFERENCE ASSISTANCE</i>		
Other libraries in own agency	293	230
Other federal libraries	263	186
Nonfederal governmental libraries (e.g., state libraries)	181	121
Nongovernmental libraries	286	274
<i>EXCHANGE OF MATERIALS</i>		
Other libraries in own agency	281	231
Other federal libraries	186	142
Nonfederal governmental libraries (e.g., state libraries)	90	66
Nongovernmental libraries	122	80

Table 5. Respondents' Interaction with Other Libraries by Activity

grams are among the most advantaged federal libraries, none of them has resources comparable to large public and university libraries. At the lower end of the spectrum the libraries have total budgets of less than \$75,000 a year, have one professional librarian, and fewer than 37,000 total holdings. This indicates that automation is being done even in small federal libraries (table 6).

The overwhelming majority of respondents from all the libraries, however, reported that local resources are inadequate to support automation, and they are very much in favor of the idea of centralized automation support and

	<i>Median</i>	<i>First Quartile</i>	<i>Third Quartile</i>	<i>Range</i>
BUDGET (Total for 56 libraries: \$18,792,584)	\$176,500	\$74,500	\$464,000	\$10,000– 1,765,000
STAFF				
Professional				
1410 [N=53]	4.0	1.0	9.0	1–53
1412 [N=14]	2.0	1.0	3.5	1–4
Other [N=43]	2.0	1.5	5.5	1–57
Subprofessional [N=43]	6.0	3.0	10.6	1–46
Clerical [N=36]	4.0	2.0	7.0	.5–33
HOLDINGS				
Total Collections [N=56]	150,000	37,700	367,000	2500– 750,000
Estimated Percent in Microform [N=42]	5%	1%	25%	1%–80%

Table 6. Resources in Federal Libraries

services.

In developing the survey questionnaires, a number of questions were included dealing with attitudes toward automation, centralized services, participation in networks, standard program packages, and cooperative arrangements. The results of the attitudes questions show, among other things, a strong tendency on the part of the librarians to be realistic about automation and a desire on their part for the Federal Library Committee to provide them with more support in the planning stages.

Task Force Program

The overall survey results,¹ including the examples of participation in cooperative and coordinated programs to help augment resources, influenced the Task Force on Automation of Library Operations in developing its program for current and future activities. The Task Force has set as one of its objectives, as noted earlier, to furnish guidance to federal librarians and administrators on problems of library automation. This function will take a number of forms including, at the present, cooperating in a study of the technical and administrative feasibility of the concept of a centralized service operation for federal libraries.

For several months in 1972 an unofficial study group, composed of a number of federal library directors from the Washington, D.C. metropolitan area and members of the Task Force on Automation, examined and discussed several aspects of possible cooperative effort among federal libraries, particularly for the purpose of determining the technical and administrative feasibility of establishing a Federal Library Cooperative Center. The initial function of such a center is thought to be shared cataloging, with additional services and products desired by cooperating agencies to be added as quickly as possible.

In order to proceed with its evaluation responsibility, the study group sought input on the technical characteristics of various cooperative or centralized services. That is, we wanted to share the experiences of those operating *on-line* cataloging, circulation, search and retrieval, acquisition, serials, and other bibliographic systems.

In addition, the group wanted input from those involved with *centralized* and *cooperative* ventures of various types, i.e., interagency centralized processing, regional library cooperatives or subject-oriented cooperatives. From these operational facilities we sought to learn about administrative and managerial aspects as well as to get some data on the impact of the cooperative or centralized operation on the services, products, and costs of the individual participants.

Further, the group set out to examine the applicable federal bureaucratic and organizational structure which can provide for cooperative activities. The legal or legislative characteristics of the federal establishment must be considered, as well as the language and intent of the authorizing or enabling charters of appropriate departments and agencies, to determine what is conducive to or restrictive of federal cooperative activities. Also the responsibilities of the OMB, GSA, and GAO need to be studied, and federal policies or programs in regard to computer utilization have to be examined. These studies, we felt, should point out ways to accomplish the necessary sympathetic consideration of our recommendation for the establishment of a cooperative center.

The systems or services examined include those of Stanford University Libraries (the BALLOTS systems); the Shawnee Mission School System in Kansas; the systems of NLM, NAL, NASA, and ILO; and the activities of NELINET and SLICE; and, of course, the OCLC. In addition we were briefed on the characteristics of BIBNET-1000, the proprietary program of Information Dynamics Corporation.

We were fortunate, furthermore, in being able to contract with Frederick Kilgour of OCLC for a study of the feasibility of a cooperative center

similar to the OCLC operation for the particular situation of federal libraries. Based on his extensive knowledge of the field and his broad understanding of the federal community, Kilgour reviewed for us the general library problem, the solution offered by a computerized cooperative, and the specific potential of that solution for federal library problems. He recommended a set of objectives for a Federal Library Cooperative Center, defined organization and funding arrangements, and described the implementation and operations of such a center. Kilgour's report added immeasurably to our study of the center concept.

It is our conclusion that in spite of shortcomings or the limited development of a number of these programs, the evidences of success in key elements of their operation suggest that a cooperative effort among federal libraries would be successful in offering useful outputs, would be technically feasible, and can be made economically viable.

Current Efforts

We have, therefore, established a Work Group on the Federal Library Cooperative Center (FLCC) as a formally constituted unit of the Federal Library Committee. The work group is pursuing two objectives: one is to draft a proposal for a planning grant for the development of a FLCC. The purpose of the planning grant should be the specification of the organization and structure of the FLCC, its functions and management, the specification of a program of action (i.e., tasks in priority order) in the development of services and outputs, the specification of resources required (manpower, equipment, etc.) for reasonable operation; a calendar for their acquisition; and other elements that may be determined.

As a first step in drafting this proposal, we developed the following statement of goals for the FLCC:

1. Facilitating the sharing of resources among federal libraries for the purpose of: (a) making those resources freely and widely available to users when and where they need them, and (b) enabling libraries to reduce their inventories while expanding their services through access to other collections.
2. Providing means for reducing the rate of rise in the operating costs of libraries by: (a) increasing the productivity of library personnel through effective use of automation, and (b) making available access to various information products and services to supplement the libraries' internal efforts.

We feel that this program of cooperative effort among federal libraries will be based initially on applications of computer, communications and information technologies and will use these technologies to enhance the missions of libraries to furnish their users with the information needed to conduct agency programs, arrive at managerial decisions, and contribute to policy-making in a timely and thorough fashion.

Elements of the cooperative effort will include:

1. On-line access to computer-based files for *shared cataloging* of various collections: monographs, serials, technical reports, maps, audiovisual materials, etc.;
2. On-line access to computer-based files for *retrieval* of references in answer to specific questions, for preparation of current awareness alerting services, for compilation of special bibliographies, etc.;
3. On-line access to files and programs for *technical processing*, for book ordering and serials subscription efforts;
4. Generation and maintenance of *statistics* on these cooperative activities, to support the operations and plans of the participating libraries.

Further elements of this program of cooperative effort will in general take the form of implementing projects developed by the Federal Library Committee and its various task forces dedicated to specific problems of the federal library community.

The second objective being pursued by the work group is an experimental hook-up to OCLC for the purpose of providing hands-on experience with shared cataloging in an on-line environment. This is not meant as a test of the OCLC system; that has already proved its feasibility and effectiveness. Rather it is a test of the concept of shared cataloging for the federal community and a means for federal libraries to try out on-line access to a large data base consisting of LC MARC records and additional MARC-type records.

The negotiations with OCLC to provide this experimental hook-up include adding the OCLC system to the TYMSHARE network. This means that the test would be available to selected federal libraries in cities throughout the U.S., by means of a local phone call. Also, the TYMSHARE system is compatible with a wide range of terminals which means that federal libraries having access to terminals already operating within their agencies have a good chance of participating in the experiment with a minimum initial investment.

The work group and the parent Federal Library Committee are now seeking support for the startup costs in order to get this experiment under-

way. These costs include modification of the OCLC system to connect it to TYMSHARE, particularly programming an interface for the front end of the OCLC system so that the multiplicity of terminals available through TYMSHARE can be accepted; and costs of the TYMSHARE hook-up and equipment, i.e., the cost of installing and maintaining a TYMSHARE node at OCLC. The participating federal libraries, then, will bear the expense of the terminals plus the variable costs for system use: connect hours, characters transmitted, catalog cards requested, and titles matched and processed. An approximation based on these figures would suggest that the variable cost might be \$2.10 per title.

So the Work Group on the FLCC moves forward in its task of specifying a federal library program of cooperation. The task bears promise of success because the climate for such cooperative programs is more hospitable today than has usually been the case. Tight budgets and limited resources are facts of life for all libraries, but only recently has there been a real appreciation for what sharing of resources and cooperative programs can accomplish in making it possible to give good service within the limits of those resources. This appreciation has been coupled with a realization that increased productivity can be accomplished through automation, and increasing the productivity of library staff helps to reduce the rate of rise of library operating costs. So the chances of coupling the technical feasibility of library automation programs with the administrative feasibility of sharing and cooperating in establishing and operating those programs look much better than they used to.

In our own case, the federal library community, we are further encouraged by the fact that the GAO recently reviewed federal library operations in the metropolitan Washington, D.C. area and made several helpful recommendations. One, for example, dealt with the need for strengthening OMB's role in the central management of libraries, in the sense of their developing efficient coordinating mechanisms to expand interagency cooperation and promoting improved plans of administrative management. Another suggested that OMB follow up on the work at OCLC for improving the cooperation of federal libraries in such activities as cataloging and control of periodicals.

We feel, with the advances in technological capability available to us, the needs and desires of federal librarians for help in automating for more efficient operations so clearly expressed, and the encouragement on the part of GAO for cooperative programs by federal agencies, that the prospects for a Federal Library Cooperative Center are very bright indeed.

REFERENCE

1. Contained in: *Automation and the Federal Library Community*. Report on a survey available from the Federal Library Committee, Library of Congress, Washington, D.C. 20540.